other lenses, or another relevant candidate material such as an appropriate plastic or glass material, or another material with appropriate attributes.

[0069] The filter may filter a partial wavelength from light incident through the first to fifth lenses. For example, the filter filters an infrared wavelength of the incident light. However, this is only one example and filters that filter other wavelengths instead of or in addition to infrared wavelengths are also possible in other embodiments.

[0070] In an embodiment, the image sensor realizes a high resolution, such as a resolution of 1300 megapixels. For example, a unit size of the pixels configuring the image sensor may be 1.12 μm or a smaller value.

[0071] The stop may be disposed in order to adjust an amount of light incident onto the lenses. For example, the stop is disposed to be adjacent to the object-side surface of the first lens.

[0072] For example, the optical imaging system satisfies the following Conditional Expressions:

$0.7<TTL/f<1.1$	Conditional Expression 1
$1.1<TTL/ImgH$	Conditional Expression 2
$20<FOV<35$	Conditional Expression 3
$0.16<R1/f<2.0.$	Conditional Expression 4

[0073] For example, TTL denotes a distance from the object-side surface of the first lens to the imaging plane, f denotes an overall focal length of the optical imaging system, ImgH denotes a distance from a center of the imaging plane to a corner, FOV denotes a half of a field of view of the optical imaging system, and R1 denotes a radius of curvature of the object-side surface of the first lens.

[0074] The optical imaging system satisfying the above Conditional Expressions is easily miniaturized and is suitable to be mounted in a small terminal.

[0075] An optical imaging system according to a first embodiment is described further with reference to FIG. **1**.

[0076] The optical imaging system **100** according to the first embodiment includes an optical system including a first lens **110**, a second lens **120**, a third lens **130**, a fourth lens **140**, and a fifth lens **150**. In addition, in such an embodiment, the optical imaging system **100** includes a filter **160**, an image sensor **170**, and a stop ST.

[0077] In this embodiment, the first lens **110** has a positive refractive power, and an object-side surface of the first lens **110** is convex and an image-side surface of the first lens **110** is concave. The second lens **120** has a negative refractive power, and both surfaces of the second lens **120** are concave. The third lens **130** has a negative refractive power, and an object-side surface of the third lens **130** is convex and an image-side surface of the third lens **130** is concave. The fourth lens **140** has a positive refractive power, and an object-side surface of the fourth lens **140** is concave and an image-side surface of the fourth lens **140** is convex. The fifth lens **150** has a negative refractive power, and an object-side surface of the fifth lens **150** is concave and an image-side surface of the fifth lens **150** is convex. In such an embodiment, the stop ST is located adjacent to the object-side surface of the first lens.

[0078] The optical imaging system configured as described above includes aberration characteristics as illustrated in FIG. **2**. FIG. **3** is a table representing characteristics of lenses of the optical imaging system according to the first embodiment.

[0079] An optical imaging system according to a second embodiment is described further with reference to FIG. **4**.

[0080] The optical imaging system **200** according to the second embodiment includes an optical system including a first lens **210**, a second lens **220**, a third lens **230**, a fourth lens **240**, and a fifth lens **250**. In addition, in such an embodiment, the optical imaging system **200** includes a filter **260**, an image sensor **270**, and a stop ST.

[0081] In this embodiment, the first lens **210** has a positive refractive power, and an object-side surface of the first lens **210** is convex and an image-side surface of the first lens **210** is concave. The second lens **220** has a negative refractive power, and both surfaces of the second lens **220** are concave. The third lens **230** has a negative refractive power, and an object-side surface of the third lens **230** is convex and an image-side surface of the third lens **230** is concave. The fourth lens **240** has a positive refractive power, and an object-side surface of the fourth lens **240** is concave and an image-side surface of the fourth lens **240** is convex. The fifth lens **250** has a negative refractive power, and an object-side surface of the fifth lens **250** is concave and an image-side surface of the fifth lens **250** is convex. In such an embodiment, the stop ST is located adjacent to the object-side surface of the first lens.

[0082] The optical imaging system configured as described above includes aberration characteristics as illustrated in FIG. **5**. FIG. **6** is a table representing characteristics of lenses of the optical imaging system according to the second embodiment.

[0083] An optical imaging system according to a third embodiment is described further with reference to FIG. **7**.

[0084] The optical imaging system **300** according to the third embodiment includes an optical system including a first lens **310**, a second lens **320**, a third lens **330**, a fourth lens **340**, and a fifth lens **350**. In addition, in such an embodiment, the optical imaging system **300** may include a filter **360**, an image sensor **370**, and a stop ST.

[0085] In this embodiment, the first lens **310** has a positive refractive power, and an object-side surface of the first lens **310** is convex and an image-side surface of the first lens **310** is concave. The second lens **320** has a negative refractive power, and both surfaces of the second lens **320** are concave. The third lens **330** has a negative refractive power, and an object-side surface of the third lens **330** is convex and an image-side surface of the third lens **330** is concave. The fourth lens **340** has a positive refractive power, and an object-side surface of the fourth lens **340** is concave and an image-side surface of the fourth lens **340** is convex. The fifth lens **350** has a negative refractive power, and an object-side surface of the fifth lens **350** is concave and an image-side surface of the fifth lens **350** is convex. In such an embodiment, the stop ST is located adjacent to the object-side surface of the first lens.

[0086] The optical imaging system configured as described above includes aberration characteristics as illustrated in FIG. **8**. FIG. **9** is a table representing characteristics of lenses of the optical imaging system according to the third embodiment.

[0087] Table 1 represents optical characteristics of the optical imaging systems, according to the first to third embodiments. For example, according to these embodi-